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AUTHOR Hausken, Elvira Germino; Brimhall, DeeAnn; Pollack, Judy
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ABSTRACT

Noting the importance of kindergarten for establishing skills critical for school success, especially for today's diverse kindergartners who differ in the extent and types of early care and educational experiences they have had prior to kindergarten, this study focused on the gains in reading skills made by language minority and mainstream (non-language minority) children. Data were obtained from the Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K), a nationally representative sample of approximately 22,000 kindergartners enrolled in 1,000 public and private kindergartens. Two research questions were addressed: (1) are there differences in reading skills of mainstream children and two groups of language minority children (from Spanish-language or Asian-language homes); and (2) what gains in reading do children make during their kindergarten year and do gains differ by home language status, or by characteristics of child, family, or school. Findings indicated that in the fall of the kindergarten year, higher percentages of children from non-language minority and from Asian-language homes mastered each of the reading proficiency levels than from Spanish-language homes. In spring of the kindergarten year, children gained reading skills regardless of the home language. Mainstream children and children from Asian-language homes made larger gains than children from Spanish-language homes in beginning sounds, ending letter sound relationships, and reading words. At each SES level, gains differed by the home language. Public-private school differences were evident in both fall and spring. There were no initial differences and no differences in gains made related to whether children attended a full- or part-day program. (KB)

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Elvira Germino Hausken
National Center for Education Statistics
U.S. Department of Education

DeeAnn Brimhall
Kristin Denton
Education Statistics Services Institute

Judy Pollack
Educational Testing Service

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American Educational Research Association's Annual Conference
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Seattle, Washington

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Background

Kindergarten represents a critical period in children's early school careers. It functions as an introduction to the entire elementary and secondary school experience. It is a time for establishing skills critical for success in school. Kindergartners in the 1990s are a very diverse group of children. They come from diverse backgrounds, racially, ethnically, socially, and economically. In 1997, 63 percent of the elementary and secondary enrollment was composed of White non-Hispanic students compared with 70 percent 11 years ago. From 1986 to 1997, the total minority enrollment rose from 30 percent to 36 percent of all students with the percentage of Hispanic students growing from 10 percent in 1986 to 14 percent in 1997 (Snyder 2000). Furthermore, a smaller percentage of children live in two parent families than was the case in the 1940s (Jones & Weinberg 2000). Today's kindergartners differ in the extent and types of early care and educational experiences that they have had prior to kindergarten (Zill et al. 1995).

Children enter school demonstrating a wide range of knowledge and skills (West, Denton, and Germino Hausken 2000) and at the end of the kindergarten year show gains in their skill levels (West, Denton, and Reaney 2000). Furthermore, West, Denton and Reaney (2000) found that the gains children make in specific reading and mathematical skills differ by child, family, and kindergarten program characteristics.

In 1999, about 17 percent of children between the ages of 5 and 17 lived in a home where a language other than English was spoken. Of these children, 5 percent were limited in their proficiency of English (Federal Interagency Forum on Child and Family Statistics, Forthcoming). Minority groups differ from each other and from mainstream cultures (Snow, Burns, & Griffin 1998). This paper focuses specifically on the gains in reading skills made by language minority and mainstream (i.e., non-language minority) children. It is important to look at these specific groups to determine if the children's progress in reading skills during the kindergarten year differs by the language(s) spoken in their homes. The following research questions are addressed:

- Are there differences in the reading skills of non-language minority children and two groups of language minority children (i.e., children from Spanish language homes and children from Asian language homes) when they enter kindergarten in the fall and at the end of the kindergarten year?

- What gains in reading do children make from the fall to the spring of their kindergarten year? Do the gains children make in reading differ by their home language status? Do the gains they make in reading differ by child, family, and school characteristics?

Data Source

The information on children's kindergarten reading skills comes from the Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 (ECLS-K). The children in the ECLS-K are a nationally representative sample of approximately 22,000 kindergartners enrolled in about 1,000 public and private kindergartens in the United States. These children attended both public (85 percent) and private (15 percent) kindergartens offering full day (55 percent) and part-day

(45 percent) programs during the 1998-1999 school year. All kindergartners within the sampled schools were eligible for the sampling process, including language minority (i.e., children whose home language is not English) and children with disabilities. The sample includes children from different racial-ethnic and socioeconomic backgrounds.

The ECLS-K implemented a two-step approach to ensure that assessment data from language minority children were valid and reliable. First, children's home language status was determined by field staff from school records or, if records were not available, from information provided by the children's teachers. Next, a brief English language screener, the Oral Language Development Scale (OLDS), was administered to those children who had a non-English language background. Performance on the OLDS was used to ascertain whether the children understood English well enough to take the ECLS-K Assessment Battery in English. Children who achieved the established cut score on the OLDS received the full assessment including the reading assessment. Children who did not received a reduced set of the ECLS-K assessments that did not include the reading assessment.[1]

The ECLS-K reading assessment sampled five levels of early reading skills that reflect an empirically based progression of skills and knowledge. The five levels include:

1. naming upper- and lower-case letters of the alphabet;
2. associating letters with sounds at the beginning of words;
3. associating letters with sounds at the end of words;
4. reading common sight words; and
5. reading short passages.

We have used proficiency probability scores in this report. The proficiency probability scores can be averaged to produce estimates of mastery rates within population subgroups.

The split half reliabilities of the item-cluster-based proficiency level scores are:

	Fall K	Spring K
Level 1	0.83	0.79
Level 2	0.76	0.76
Level 3	0.72	0.76
Level 4	0.78	0.77
Level 5	0.60	0.69

Source: U.S. Department of Education, National Center for Education Statistics (2000). *ECLS-K Base Year Public-Use Data Files and User's Manual.* Washington, DC: Author.

[1] See National Center for Education Statistics (2000). *Early Childhood Longitudinal Study, Kindergarten Class of 1998-99 Base Year Public-Use Data Files and User's Manual*, (NCES 2001-029) for more information.

Comparisons made in this paper were tested for statistical significance. All differences cited are statistically significant at the .05 alpha level.

Sample

Estimates in this paper are based on children in the ECLS-K sample who had assessment scores from the ECLS-K Reading Assessment in English in both the fall of 1998 and spring of 1999 (table 1). Children from non-English speaking homes who did not achieve the established cut score on the OLDS were excluded from this analysis. Approximately 37 percent of children from Asian language speaking homes and approximately 53 percent of children from Spanish language speaking homes were not assessed in the fall of 1998.

Table 1. – Population percentages of children assessed in English in fall 1998 and spring 1999, by family and school characteristics, by language-minority status: Kindergarten Year, 1998-99

Characteristic	Non-language minority	Spanish language	Asian-language
Total	96	3	1
Socioeconomic status			
Lowest 20 percent	16	48	22
Middle 60 percent	63	46	46
Highest 20 percent	22	6	33
School sector			
Public	84	90	81
Private	16	10	19
Program type			
Full day	57	53	47
Part-day	43	47	53

NOTE: Estimates based on children assessed in English in both the fall and the spring of kindergarten. Approximately 37 percent of children from Asian language homes and approximately 53 percent children from Spanish language homes were not assessed in fall 1998.

Source: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999, Fall 1998 and Spring 1999. Public Use File.

Findings/Results

Differences in gains in reading proficiency between non-language minority children and children from Spanish language homes and children from Asian language homes in the fall and spring of the kindergarten year.

The percentages of children mastering each of the reading proficiency skills differed by the children's home language in the fall and in the spring of the kindergarten year (table 2, 3, and 4). In the fall of the kindergarten year, higher percents of non-language minority children and children from Asian language speaking homes mastered each of the reading proficiency levels than did children from Spanish language speaking homes. Similar percentages of non-language minority children and children from Asian language speaking homes had mastered the first three reading proficiency levels (i.e., letter names, beginning sounds, and ending sounds) in the fall of kindergarten. Although less than 10 percent of all kindergartners could read sight words and passages in the fall, higher percentages of Asian language children could read sight words (7 percent) and short passages (4 percent) than either non-language minority (2 percent and less than 1 percent, respectively) or Spanish language children (less than 1 percent for either skill).

In the spring of the kindergarten year, the children gained reading skills regardless of the languages spoken in the home (table 2, 3, and 4). By spring, almost all of the kindergartners knew the letters of the alphabet. In addition, between 52 percent and 81 percent of the children knew beginning letter sounds and between 35 and 62 percent knew ending letter sounds.

However, gains in specific reading skills differed by the language spoken in the home. More non-language minority children (72 percent) and Asian language children (81 percent) gained skills in beginning sounds compared with 56 percent of Spanish language children (figure 1). The reading gains children made in each skill level differed by the language spoken in the home. Non-language minority children and Asian language children made larger gains in mastering the ending letter sound relationships (35 percent and 40 percent, respectively) and reading words (11 percent and 18 percent, respectively) compared with Spanish language children (29 percent ending sounds and 5 percent sight words).

Differences in children's gains in reading between the fall of their kindergarten year and the spring of their kindergarten year by family socioeconomic status and school characteristics.

Over the kindergarten year, children increased their skills in reading regardless of the languages spoken in the home. To understand the influence of the family and school characteristics, gains in children's reading skill proficiencies were examined by family socioeconomic status, school sector (public versus private) and kindergarten program type (full day versus part-day) (table 2, 3, and 4). The relationships between these characteristics and children's reading achievement were examined separately for each of the three language groups.

At each level of family socioeconomic status, the gains children made in each of the reading proficiency levels differed by the language spoken in the home. For example, for children at the lowest socioeconomic level, the gains in beginning sounds that children from Asian language-speaking homes made between the fall and spring were higher than the gains of children from non-language minority and Spanish language-speaking homes. Fifty-four percent of children from Asian language-speaking homes mastered beginning sound relationships compared with 39 percent of non-language minority children and 43 percent of Spanish language-speaking children. Among children in the middle socioeconomic level, the gains made by children mastering ending sounds between the fall and spring also differed by the language spoken in the home. Thirty-seven percent of non-language minority children and 43 percent of children from

Asian language-speaking homes mastered ending sounds in the spring compared with 31 percent of children from Spanish language-speaking homes. Children's gains in this skill did not differ between children from non-language minority and Asian language-speaking homes, however.

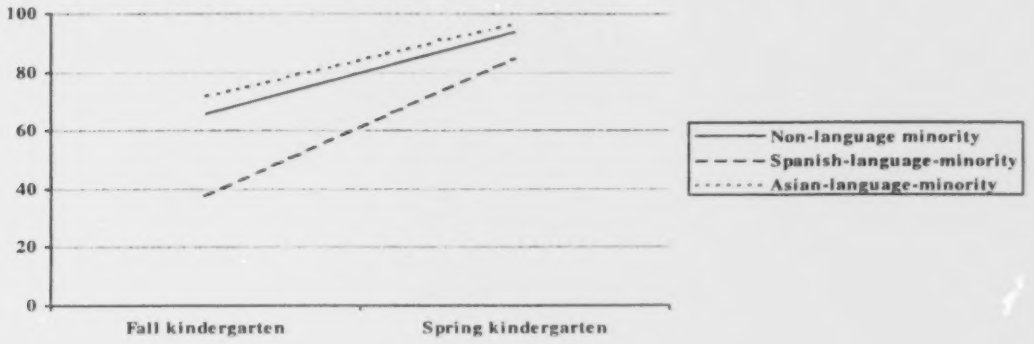
In the fall of the kindergarten year, the reading proficiency levels by children in each of the three groups differed by school sector. For example, between 69 to 87 percent of children attending private schools could identify the letters of the alphabet compared with 34 to 69 percent of children attending public schools. However, by the end of the kindergarten year, almost all of the children had mastered their letters regardless of the language spoken in the home and school sector. Although, differences in the percentages of children mastering specific reading skills existed by school sector in the spring, these differences existed in the fall regardless of the language spoken in the home. Consequently, the differences in spring levels by school sector should be interpreted with caution because the percentages of children mastering each of these levels also differed in the fall.

Schools use a variety of grouping arrangements to meet the needs of children and the community. Some schools offer kindergarten classes that meet for a full day, while others provide part-day programs. The percentages of children exhibiting specific reading skills in the fall and spring did not differ by the type of kindergarten program. The gains children made at each of the reading proficiency levels in the spring were not significantly different regardless of whether the kindergarten program met for a full day or part-day for all three language groups.

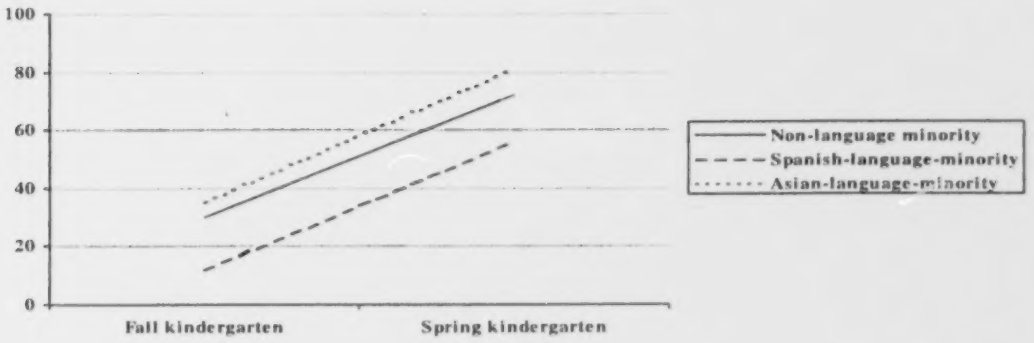
Germino Hausken, Brimhall, Denton & Pollack. *Kindergartners' Educational Progress: A Study of Language Minority and Non-Language Minority Children*. Paper presented at the American Educational Research Association's Annual Conference, Seattle, WA. April 2001.

Figure 1. - Kindergartners' Educational Progress: A Study of Language Minority and Non-Language Minority Children

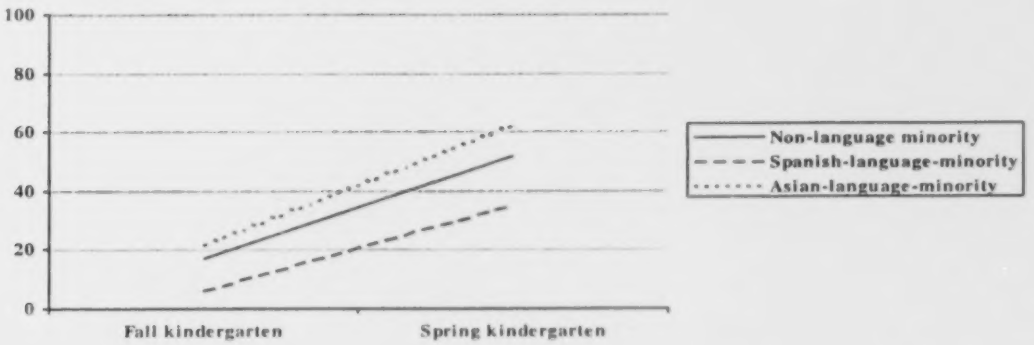
Letter Recognition



Beginning Sounds



Ending Sounds



Source: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-99: Public-use Base-year.

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Table 2.— Percentage of non-language-minority kindergartners demonstrating specific reading knowledge and skills, by family and kindergarten program characteristics: Fall 1998 and Spring 1999

Characteristic	Letter recognition			Beginning sounds			Ending sounds			Sight words			Words in context		
	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain
Total	66	94	28	30	72	42	17	52	35	2	13	11	*	4	3
Socioeconomic status															
Lowest 20 percent	41	84	43	10	49	39	4	29	25	*	3	3	*	*	*
Middle 60 percent	66	94	29	27	72	45	15	51	37	2	11	9	*	3	3
Highest 20 percent	84	98	14	51	86	35	33	70	38	6	25	19	2	9	7
School sector															
Public	63	93	30	27	69	43	15	49	35	2	11	9	*	3	3
Private	83	97	14	46	83	37	29	66	38	5	22	17	2	8	6
Program type															
Full day	67	94	28	30	73	42	17	53	36	2	14	12	*	4	4
Part-day	65	93	28	29	70	41	16	50	34	2	11	9	*	4	3

* Less than 1 percent.

NOTE: Estimates based on children assessed in English in both the fall and the spring of kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999, Fall 1998 and Spring 1999. Public-Use file.

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Table 3 .— Percentage of Spanish-language kindergartners demonstrating specific reading knowledge and skills, by family, and kindergarten program characteristics: Fall 1998 and Spring 1999

Characteristic	Letter recognition			Beginning sounds			Ending sounds			Sight words			Words in context		
	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain
Total	38	85	47	12	56	44	6	35	29	*	6	5	*	2	1
Socioeconomic status															
Lowest 20 percent	29	80	51	7	49	43	2	28	26	*	3	3	0	*	*
Middle 60 percent	42	87	45	15	59	44	7	38	31	*	7	7	*	2	2
Highest 20 percent	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
School sector															
Public	34	84	49	10	54	44	5	33	28	*	5	4	*	2	1
Private	69	92	23	28	72	44	15	54	39	1	15	13	*	3	3
Program type															
Full day	43	86	43	14	61	47	7	42	35	*	9	8	*	3	3
Part-day	32	82	51	9	50	40	4	27	23	*	3	2	*	*	*

* Less than 1 percent.

--- Less than 30 cases in the denominator. Too few cases for reliable estimate.

NOTE: Estimates based on children assessed in English in both the fall and the spring of kindergarten.

Source: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999, Fall 1998 and Spring 1999. Public-Use file.

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Table 4. — Percentage of Asian-language kindergartners demonstrating specific reading knowledge and skills, by family, and kindergarten program characteristics: Fall 1998 and Spring 1999

Characteristic	Letter recognition			Beginning sounds			Ending sounds			Sight words			Words in context		
	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain
Total	72	97	24	35	81	45	22	62	40	7	25	18	4	12	8
Socioeconomic status															
Lowest 20 percent	51	96	45	17	71	54	7	48	40	*	11	10	*	2	1
Middle 60 percent	69	96	27	27	77	50	13	56	43	2	19	17	*	8	7
Highest 20 percent	91	98	7	59	93	33	42	79	36	19	44	25	11	26	15
School type															
Public	69	96	27	32	78	46	19	58	39	5	22	16	3	9	6
Private	87	100	13	48	93	45	32	76	44	15	40	25	9	26	17
Program type															
Full day	76	98	22	35	83	48	22	62	40	7	25	18	6	15	10
Part-day	69	95	26	36	79	43	21	59	38	5	22	17	3	10	7

* Less than 1 percent.

NOTE: Estimates based on children assessed in English in both the fall and the spring of kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999, Fall 1998 and Spring 1999. Public-Use file.

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Summary

There is widespread agreement that minority groups differ from each other and from mainstream cultures in several respects (Snow, Burns, & Griffin 1998). This paper presents a look at the differences in the reading proficiency skills exhibited by children from homes where a language other than English is spoken. It has found that gains in reading skills differed between mainstream (i.e., non-language minority children) and language minority children and between groups of language minority children. As with earlier reports on the kindergarten year, this report found that all kindergartners, regardless of their home language backgrounds begin the fall of the kindergarten year with a wide range of reading skills and increase those skills during the year. In the fall of the kindergarten year, children's reading proficiency skills differed by the language spoken in the home. By the end of the school year, reading skills continued to differ by the language spoken in the home (i.e., lower percentages of children from Spanish language-speaking homes start and end the school year mastering beginning reading skills). Moreover, regardless of their families' socioeconomic status, children from Spanish language-speaking homes lag behind their peers from non-language minority and Asian language-speaking homes.

The ECLS-K will follow these kindergartners through the fifth grade. Researchers will be able to track children's performance and the differences in their performance, not only by child and family characteristics but also by school characteristics. This report in combination with the future reports will help inform researchers, educators, teachers, parents, and policy makers on issues relevant to the education of young children.

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Standard Error Tables

Table 2a.— Standard errors for the percentage of non-language-minority kindergartners demonstrating specific reading knowledge and skills, by family, and kindergarten program characteristics: Fall 1998 and Spring 1999

Characteristic	Letter recognition			Beginning sounds			Ending sounds			Sight words			Words in context		
	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain
Total	0.8	0.4	0.6	0.8	0.9	0.6	0.5	0.9	0.6	0.1	0.5	0.4	0.1	0.2	0.2
Socioeconomic status															
Lowest 20 percent	1.5	1.0	1.4	0.7	1.4	1.2	0.3	1.2	1.0	0.1	0.4	0.3	0.1	0.1	0.1
Middle 60 percent	0.8	0.4	0.6	0.7	0.8	0.7	0.5	0.8	0.6	0.1	0.4	0.4	0.1	0.2	0.1
Highest 20 percent	0.8	0.2	0.7	1.0	0.7	0.8	0.9	1.0	0.8	0.4	0.9	0.7	0.2	0.5	0.4
School type															
Public	0.8	0.4	0.6	0.8	0.9	0.7	0.5	1.0	0.7	0.1	0.4	0.4	0.1	0.2	0.1
Private	1.2	0.4	1.0	1.8	1.1	1.1	1.4	1.4	0.8	0.6	1.4	1.1	0.3	0.7	0.6
Program type															
Full day	1.1	0.5	0.8	1.2	1.3	0.9	0.8	1.3	0.9	0.2	0.8	0.7	0.1	0.3	0.3
Part-day	1.2	0.5	0.9	1.1	1.1	0.7	0.7	1.2	0.7	0.2	0.5	0.4	0.1	0.2	0.2

NOTE: Estimates based on children assessed in English in both the fall and the spring of kindergarten.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999, Fall 1998 and Spring 1999. Public-Use file.

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Table 3a.— Standard errors for the percentage of Spanish-language kindergartners demonstrating specific reading knowledge and skills, by family, and kindergarten program characteristics: Fall 1998 and Spring 1999

Characteristic	Letter recognition			Beginning sounds			Ending sounds			Sight words			Words in context		
	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain
Total	2.4	1.8	2.6	1.2	2.2	2.0	0.8	2.1	1.9	0.4	0.9	0.8	0.2	0.5	0.4
Socioeconomic status															
Lowest 20 percent	3.5	3.2	3.9	1.3	3.2	2.9	0.6	2.7	2.6	0.0	1.0	1.0	0.0	1.9	1.9
Middle 60 percent	3.1	2.1	3.2	1.9	2.9	2.6	1.2	2.3	2.1	0.3	1.5	1.5	0.0	0.9	0.9
Highest 20 percent	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
School type															
Public	2.5	2.0	2.9	1.2	2.6	2.1	0.8	2.0	1.9	0.4	0.8	0.7	0.3	0.4	0.3
Private	4.5	4.0	3.3	5.2	5.5	5.7	3.6	5.7	5.3	1.2	3.7	3.6	0.1	1.8	1.8
Program type															
Full day	2.9	2.8	2.9	1.8	3.3	2.8	1.2	3.1	2.8	0.6	1.6	1.5	0.0	0.8	0.8
Part-day	3.9	2.3	4.3	1.6	2.6	2.5	0.9	2.2	1.9	0.5	0.9	0.7	0.5	0.5	0.2

--- Less than 30 cases in the denominator. Too few cases for reliable estimate

NOTE: Estimates based on children assessed in English in both the fall and the spring of kindergarten.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999, Fall 1998 and Spring 1999. Public-Use file.

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Table 4a.— Standard errors for the percentage of Asian-language kindergartners demonstrating specific reading knowledge and skills, by family, and kindergarten program characteristics: Fall 1998 and Spring 1999

Characteristic	Letter recognition			Beginning sounds			Ending sounds			Sight words			Words in context		
	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain	Fall	Spring	Gain
Total	2.5	1.0	2.4	2.8	1.9	2.6	2.2	2.4	2.1	1.3	2.4	2.0	1.0	1.6	1.3
Socioeconomic status															
Lowest 20 percent	4.4	1.6	4.5	2.8	3.8	3.9	1.4	4.5	4.4	0.7	3.9	3.8	0.6	0.9	0.7
Middle 60 percent	3.8	1.4	3.5	2.8	2.6	2.8	1.7	3.1	2.5	0.8	3.0	2.8	0.5	2.1	2.0
Highest 20 percent	2.7	2.1	2.2	5.0	2.1	4.9	4.2	2.7	3.5	3.3	4.9	3.6	2.8	3.8	2.5
School type															
Public	2.9	1.2	2.8	2.9	2.3	2.7	2.3	2.6	2.2	1.3	2.6	2.1	1.0	1.6	1.2
Private	3.9	0.0	3.9	6.6	1.8	6.3	5.7	4.0	5.4	4.1	5.8	4.6	3.2	4.7	4.0
Program type															
Full day	3.2	0.9	3.2	4.1	2.6	3.8	3.5	3.5	3.6	2.4	3.8	2.7	2.0	2.9	2.1
Part-day	4.1	1.8	3.8	4.0	3.1	3.6	2.9	3.5	2.6	1.5	3.2	2.6	1.0	1.9	1.6

NOTE: Estimates based on children assessed in English in both the fall and the spring of kindergarten.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Early Childhood Longitudinal Study, Kindergarten Class of 1998-1999, Fall 1998 and Spring 1999. Public-Use file.

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